

Soil Descriptions - Non Technical

5A--Dakota Loam, 0 To 2 Percent Slopes

Component Description

Dakota and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 7.0 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap, AB--0 to 16 inches; loam

Bt--16 to 27 inches; silt loam

2Bt, 2BC--27 to 45 inches; coarse sand

2C--45 to 60 inches; gravelly coarse sand

5B--Dakota Loam, 2 To 6 Percent Slopes

Component Description

Dakota and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 2 to 6 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 7.0 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap, AB--0 to 14 inches; loam

Bt--14 to 27 inches; silt loam

2Bt, 2BC--27 to 45 inches; coarse sand

2C--45 to 60 inches; gravelly coarse sand

7A--Hubbard Loamy Sand, 0 To 2 Percent Slopes

Component Description

Hubbard and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace
Slope range: 0 to 2 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 Ap,AB--0 to 14 inches; loamy sand
 Bw,BC--14 to 48 inches; sand
 C--48 to 60 inches; sand

7B--Hubbard Loamy Sand, 2 To 6 Percent Slopes

Component Description

Hubbard and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 2 to 6 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 Ap,AB--0 to 14 inches; loamy sand
 Bw,BC--14 to 48 inches; sand
 C--48 to 60 inches; sand

7C--Hubbard Loamy Sand, 6 To 12 Percent Slopes

Component Description

Hubbard and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 6 to 12 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.6 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 Ap,AB--0 to 13 inches; loamy sand
 Bw,BC--13 to 48 inches; sand
 C--48 to 60 inches; sand

25--Becker Fine Sandy Loam

Component Description

Becker and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Stream terrace

Flood plain

Slope range: 0 to 2 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Alluvium

Flooding does not occur (months):

January February July August September October November
December

Flooding is most likely (frequency, months):

Rare March April May June

Wet soil moisture status is highest (depth, months):

4.0 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February July August
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 7.7 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

A1--0 to 16 inches; fine sandy loam

A2--16 to 33 inches; fine sandy loam

2Bw--33 to 47 inches; loamy fine sand

2C--47 to 60 inches; fine sand

32B--Nebish Sandy Loam, 2 To 8 Percent Slopes

Component Description

Nebish and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 8 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 9.6 inches

Content of organic matter in the upper 10 inches: 1.1 percent

Typical profile:

A--0 to 5 inches; sandy loam

E--5 to 12 inches; sandy loam

Bt--12 to 38 inches; sandy clay loam

C--38 to 60 inches; fine sandy loam

32C--Nebish Sandy Loam, 8 To 15 Percent Slopes

Component Description

Nebish and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 8 to 15 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
 A--0 to 4 inches; sandy loam
 E--4 to 9 inches; sandy loam
 Bt--9 to 31 inches; sandy clay loam
 C--31 to 60 inches; fine sandy loam

32E--Nebish Sandy Loam, 15 To 25 Percent Slopes

Component Description

Nebish and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Moraine
Slope range: 15 to 25 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
 A--0 to 5 inches; sandy loam
 E--5 to 10 inches; sandy loam
 Bt--10 to 31 inches; sandy clay loam
 C--31 to 60 inches; fine sandy loam

32F--Nebish Sandy Loam, 25 To 40 Percent Slopes

Component Description

Nebish and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Moraine
Slope range: 25 to 40 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.3 inches
Content of organic matter in the upper 10 inches: 1.0 percent
Typical profile:
 A--0 to 3 inches; sandy loam
 E--3 to 9 inches; sandy loam
 Bt--9 to 24 inches; sandy clay loam
 C--24 to 60 inches; fine sandy loam

35--Blue Earth Mucky Silt Loam

Component Description

Blue earth and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression on moraine

Slope range: 0 to 1 percent

Surface layer texture: Mucky silt loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material:

Coprogenous earth

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

2.0 feet February August

Ponding does not occur (months):

January February December

Ponding is deepest (depth, months):

1.0 foot March April

Available water capacity to a depth of 60 inches: 11.3 inches

Content of organic matter in the upper 10 inches: 19.0 percent

Typical profile:

A--0 to 6 inches; mucky silt loam

Cg--6 to 38 inches; mucky silt loam

2Cg--38 to 60 inches; silt loam

36--Flom Loam

Component Description

Flom and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Swale on moraine

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 6.5 percent

Typical profile:

Ap,A--0 to 17 inches; loam

Bg--17 to 24 inches; clay loam

Cg--24 to 60 inches; loam

38B--Waukon Loam, 2 To 6 Percent Slopes

Component Description

Waukon and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 6 percent

Surface layer texture: Loam

Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap--0 to 7 inches; loam
Bt--7 to 29 inches; loam
C--29 to 60 inches; loam

38C--Waukon Loam, 6 To 12 Percent Slopes

Component Description

Waukon and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 6 to 12 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap--0 to 7 inches; loam
Bt--7 to 29 inches; loam
C--29 to 60 inches; loam

38D--Waukon Loam, 12 To 18 Percent Slopes

Component Description

Waukon and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 12 to 18 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap--0 to 7 inches; loam
Bt--7 to 28 inches; loam
C--28 to 60 inches; loam

41A--Estherville Sandy Loam, 0 To 2 Percent Slopes

Component Description

Estherville and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 4.3 inches

Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:

Ap--0 to 12 inches; sandy loam

Bw--12 to 21 inches; sandy loam

2C--21 to 60 inches; gravelly coarse sand

41B--Estherville Sandy Loam, 2 To 6 Percent Slopes

Component Description

Estherville and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 2 to 6 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.6 inches

Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:

Ap--0 to 10 inches; sandy loam

Bw--10 to 15 inches; sandy loam

2C--15 to 60 inches; gravelly coarse sand

41C--Estherville Sandy Loam, 6 To 12 Percent Slopes

Component Description

Estherville and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 6 to 12 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.6 inches

Content of organic matter in the upper 10 inches: 2.4 percent

Typical profile:

Ap--0 to 8 inches; sandy loam
Bw--8 to 15 inches; sandy loam
2C--15 to 60 inches; gravelly coarse sand

69B--Fedji Loamy Sand, 2 To 6 Percent Slopes

Component Description

Fedji and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 6 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 8.8 inches

Content of organic matter in the upper 10 inches: 2.0 percent

Typical profile:

Ap,AB--0 to 12 inches; loamy sand

Bw--12 to 27 inches; fine sand

2Bw--27 to 40 inches; loam

2C--40 to 60 inches; loam

72--Shooker Loam

Component Description

Shooker and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drainageway on moraine

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 10.4 inches

Content of organic matter in the upper 10 inches: 2.4 percent

Typical profile:

Ap--0 to 6 inches; loam

E--6 to 15 inches; loam

Bt--15 to 36 inches; loam

C--36 to 60 inches; loam

75--Bluffton Loam

Component Description

Bluffton and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression on moraine

Slope range: 0 to 1 percent

Surface layer texture: Loam

Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
2.0 feet February August
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1,A2--0 to 19 inches; loam
Bg--19 to 33 inches; clay loam
Cg--33 to 60 inches; loam

109--Cordova Loam

Component Description

Cordova and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Drainageway on moraine
Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
0.5 foot April May
Wet soil moisture status is lowest (depth, months):
3.3 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 10.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB--0 to 13 inches; loam
Bt1,Bt2--13 to 30 inches; clay loam
Bt3--30 to 41 inches; loam
BC,C--41 to 60 inches; loam

114--Glencoe Loam

Component Description

Glencoe and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on moraine
Slope range: 0 to 1 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
2.0 feet February August

Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap,A1--0 to 16 inches; loam
A2--16 to 41 inches; silty clay loam
Bg--41 to 55 inches; silty clay loam
Cg--55 to 60 inches; loam

119B--Pomroy Fine Sand, 1 To 6 Percent Slopes

Component Description

Pomroy and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Drumlin
Moraine
Position on landform:
Backslope
Shoulder
Summit
Slope range: 1 to 6 percent
Surface layer texture: Fine sand
Depth to restrictive feature:
Dense material: 30 to 60 inches
Drainage class: Moderately well drained
Parent material:
Outwash over till
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet January February July August
September December
Ponding: None
Available water capacity to a depth of 60 inches: 5.3 inches
Content of organic matter in the upper 10 inches: 0.7 percent
Typical profile:
Ap--0 to 9 inches; fine sand
E--9 to 25 inches; fine sand
Bt--25 to 29 inches; gravelly loamy fine sand
2BC--29 to 39 inches; sandy loam
2Cd--39 to 60 inches; sandy loam

125--Beltrami Loam

Component Description

Beltrami and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Position on landform:
Shoulder
Backslope
Summit
Slope range: 1 to 3 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
2.0 feet April

Wet soil moisture status is lowest (depth, months):
More than 6.7 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 10.2 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap--0 to 6 inches; loam
E--6 to 15 inches; loam
Bt--15 to 35 inches; loam
C--35 to 60 inches; loam

129--Cylinder Loam

Component Description

Cylinder and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Outwash plain
Stream terrace
Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
1.3 feet April
Wet soil moisture status is lowest (depth, months):
3.0 feet August
Ponding: None
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,AB--0 to 14 inches; loam
Bw--14 to 26 inches; loam
2BC,2C--26 to 60 inches; gravelly coarse sand

133B--Dalbo Loam, 2 To 8 Percent Slopes

Component Description

Dalbo and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Outwash plain
Slope range: 2 to 8 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Lacustrine
Flooding: None
Wet soil moisture status is highest (depth, months):
3.0 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 9.7 inches
Content of organic matter in the upper 10 inches: 2.6 percent
Typical profile:
A,AE--0 to 6 inches; loam
B/E--6 to 14 inches; very fine sandy loam
Bt--14 to 30 inches; clay loam
2C--30 to 60 inches; clay

142--Nokay Fine Sandy Loam

Component Description

Nokay and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drumlin

Moraine

Position on landform:

Shoulder

Summit

Backslope

Slope range: 1 to 2 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Somewhat poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February August
September December

Ponding: None

Available water capacity to a depth of 60 inches: 7.0 inches

Content of organic matter in the upper 10 inches: 2.7 percent

Typical profile:

A--0 to 4 inches; fine sandy loam

E--4 to 12 inches; sandy loam

Btg--12 to 24 inches; sandy loam

Bt--24 to 40 inches; sandy loam

Cd--40 to 60 inches; sandy loam

144B--Flak Sandy Loam, 4 To 8 Percent Slopes

Component Description

Flak and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drumlin

Moraine

Position on landform:

Backslope

Shoulder

Summit

Slope range: 4 to 8 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 6.9 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

A--0 to 3 inches; sandy loam

E,BE--3 to 19 inches; sandy loam

Bt1--19 to 30 inches; sandy loam

Bt2--30 to 42 inches; sandy loam

Cd--42 to 60 inches; sandy loam

144C--Flak Sandy Loam, 8 To 15 Percent Slopes

Component Description

Flak and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drumlin

Moraine

Position on landform:

Backslope

Summit

Shoulder

Slope range: 8 to 15 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 6.9 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

A--0 to 3 inches; sandy loam

E, BE--3 to 19 inches; sandy loam

Bt1--19 to 30 inches; sandy loam

Bt2--30 to 42 inches; sandy loam

Cd--42 to 60 inches; sandy loam

144E--Flak Sandy Loam, 15 To 25 Percent Slopes

Component Description

Flak and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drumlin

Moraine

Position on landform:

Backslope

Shoulder

Summit

Slope range: 15 to 25 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 6.9 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

A--0 to 3 inches; sandy loam

E, BE--3 to 19 inches; sandy loam

Bt1--19 to 30 inches; sandy loam

Bt2--30 to 42 inches; sandy loam

Cd--42 to 60 inches; sandy loam

155B--Chetek Sandy Loam, 1 To 6 Percent Slopes

Component Description

Chetek and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace
Slope range: 1 to 6 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 1.8 percent
Typical profile:
 Ap,E--0 to 13 inches; sandy loam
 Bt--13 to 23 inches; sandy loam
 2C--23 to 60 inches; gravelly coarse sand

156A--Fairhaven Loam, 0 To 2 Percent Slopes

Component Description

Fairhaven and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
 Ap,A--0 to 15 inches; loam
 Bw--15 to 30 inches; loam
 2BC,2C--30 to 60 inches; coarse sand

156B--Fairhaven Loam, 2 To 6 Percent Slopes

Component Description

Fairhaven and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
Slope range: 2 to 6 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
 Ap,A--0 to 14 inches; loam
 Bw--14 to 30 inches; loam
 2BC,2C--30 to 60 inches; coarse sand

159B--Anoka Loamy Sand, 2 To 8 Percent Slopes

Component Description

Anoka and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Slope range: 2 to 8 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 7.4 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

Ap--0 to 4 inches; loamy sand

E--4 to 14 inches; loamy sand

E/Bt--14 to 65 inches; very fine sandy loam

C--65 to 75 inches; fine sand

163B--Brainerd Fine Sandy Loam, 1 To 4 Percent Slopes

Component Description

Brainerd and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Drumlin

Moraine

Position on landform:

Backslope

Shoulder

Summit

Slope range: 1 to 4 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Moderately well drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February July August
September December

Ponding: None

Available water capacity to a depth of 60 inches: 7.1 inches

Content of organic matter in the upper 10 inches: 1.7 percent

Typical profile:

Ap--0 to 6 inches; fine sandy loam

E--6 to 15 inches; fine sandy loam

Bt--15 to 27 inches; sandy loam

BC--27 to 55 inches; fine sandy loam

Cd--55 to 60 inches; sandy loam

179B--Langola Loamy Sand, 1 To 4 Percent Slopes

Component Description

Langola and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Outwash plain

Position on landform:

Backslope
Summit
Shoulder

Slope range: 1 to 4 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Dense material: 30 to 60 inches

Drainage class: Moderately well drained

Parent material:

Outwash over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February July August
September December

Ponding: None

Available water capacity to a depth of 60 inches: 5.8 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

Ap,AB--0 to 19 inches; loamy sand
Bw--19 to 38 inches; fine sand
2BC--38 to 49 inches; sandy loam
2Cd--49 to 60 inches; sandy loam

180A--Gonvick Loam, 1 To 2 Percent Slopes

Component Description

Gonvick and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.0 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

Ap,A--0 to 12 inches; loam
Bt--12 to 30 inches; clay loam
C--30 to 60 inches; loam

180B--Gonvick Loam, 2 To 4 Percent Slopes

Component Description

Gonvick and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 4 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):
2.5 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet January February July August
September
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A--0 to 12 inches; loam
Bt--12 to 30 inches; clay loam
C--30 to 60 inches; loam

181--Litchfield Loamy Sand

Component Description

Litchfield and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Outwash plain
Stream terrace
Slope range: 1 to 3 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April May
Wet soil moisture status is lowest (depth, months):
4.3 feet February
Ponding: None
Available water capacity to a depth of 60 inches: 5.9 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,AB--0 to 19 inches; loamy sand
Bw1,Bw2--19 to 35 inches; fine sand
Bw3,BC--35 to 43 inches; fine sandy loam
C--43 to 60 inches; sand

183--Dassel Sandy Loam

Component Description

Dassel and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on outwash plain
Drainageway on outwash plain
Slope range: 0 to 1 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
1.8 feet August
Ponding: None
Available water capacity to a depth of 60 inches: 7.4 inches
Content of organic matter in the upper 10 inches: 9.0 percent
Typical profile:
Ap,AB--0 to 11 inches; sandy loam
Bg--11 to 28 inches; sandy loam

C--28 to 60 inches; loamy sand

200B--Holdingford Sandy Loam, 4 To 8 Percent Slopes

Component Description

Holdingford and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 4 to 8 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 8.6 inches

Content of organic matter in the upper 10 inches: 1.7 percent

Typical profile:

Ap--0 to 8 inches; sandy loam

E--8 to 12 inches; sandy loam

Bt--12 to 37 inches; sandy loam

C--37 to 60 inches; sandy loam

200C--Holdingford Sandy Loam, 8 To 15 Percent Slopes

Component Description

Holdingford and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 8 to 15 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 1.4 percent

Typical profile:

Ap--0 to 6 inches; sandy loam

E--6 to 10 inches; sandy loam

Bt--10 to 32 inches; sandy loam

C--32 to 60 inches; sandy loam

204B--Cushing Sandy Loam, 2 To 8 Percent Slopes

Component Description

Cushing and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 8 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.0 inches
Content of organic matter in the upper 10 inches: 1.3 percent
Typical profile:
A--0 to 5 inches; sandy loam
E--5 to 15 inches; sandy loam
B/E--15 to 19 inches; sandy loam
Bt--19 to 47 inches; sandy clay loam
C--47 to 60 inches; sandy loam

204C--Cushing Sandy Loam, 8 To 15 Percent Slopes

Component Description

Cushing and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 8 to 15 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.9 inches
Content of organic matter in the upper 10 inches: 1.3 percent
Typical profile:
A--0 to 5 inches; sandy loam
E--5 to 12 inches; sandy loam
B/E--12 to 19 inches; sandy loam
Bt--19 to 31 inches; sandy clay loam
C--31 to 60 inches; sandy loam

204E--Cushing Sandy Loam, 15 To 25 Percent Slopes

Component Description

Cushing and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 15 to 25 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
A--0 to 4 inches; sandy loam
E--4 to 10 inches; sandy loam
B/E--10 to 16 inches; sandy loam
Bt--16 to 27 inches; sandy clay loam
C--27 to 60 inches; sandy loam

207B--Nymore Loamy Sand, 2 To 8 Percent Slopes

Component Description

Nymore and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 2 to 8 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.5 inches

Content of organic matter in the upper 10 inches: 1.9 percent

Typical profile:

A,AB--0 to 9 inches; loamy sand

Bw--9 to 40 inches; sand

C--40 to 60 inches; sand

207C--Nymore Loamy Sand, 8 To 15 Percent Slopes

Component Description

Nymore and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 8 to 15 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.3 inches

Content of organic matter in the upper 10 inches: 1.3 percent

Typical profile:

A,AB--0 to 6 inches; loamy sand

Bw--6 to 36 inches; sand

C--36 to 60 inches; sand

207E--Nymore Loamy Sand, 15 To 25 Percent Slopes

Component Description

Nymore and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 15 to 25 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.3 inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

A,AB--0 to 5 inches; loamy sand
Bw--5 to 29 inches; sand
C--29 to 60 inches; sand

218--Watab Loamy Fine Sand

Component Description

Watab and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Swale on moraine

Swale on interdrumlin

Slope range: 1 to 2 percent

Surface layer texture: Loamy fine sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Outwash over till

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February August
September

Ponding: None

Available water capacity to a depth of 60 inches: 5.7 inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap--0 to 9 inches; loamy fine sand

E--9 to 20 inches; fine sand

2Bw1--20 to 24 inches; gravelly fine sandy loam

2Bw2--24 to 44 inches; sandy loam

2Cd--44 to 60 inches; sandy loam

233B--Growton Sandy Loam, 1 To 4 Percent Slopes

Component Description

Growton and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 4 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February July August
September

Ponding: None

Available water capacity to a depth of 60 inches: 9.2 inches

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap--0 to 7 inches; sandy loam

E--7 to 11 inches; sandy loam

Bt--11 to 37 inches; sandy loam

2C--37 to 60 inches; sandy loam

236--Vallers Loam

Component Description

Vallers and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Rim on depression on moraine

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 11.1 inches

Content of organic matter in the upper 10 inches: 5.6 percent

Typical profile:

Ap--0 to 8 inches; loam

Bkg--8 to 15 inches; loam

C--15 to 60 inches; loam

255--Mayer Loam

Component Description

Mayer and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Rim on depression on outwash plain

Rim on depression on stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

2.0 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

A,ABg--0 to 24 inches; loam

Bg--24 to 40 inches; loam

2Cg--40 to 60 inches; sand

260--Duelm Loamy Sand

Component Description

Duelm and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April May
Wet soil moisture status is lowest (depth, months):
4.3 feet February
Ponding: None
Available water capacity to a depth of 60 inches: 4.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
A--0 to 19 inches; loamy sand
Bw--19 to 30 inches; loamy sand
BC,C--30 to 60 inches; coarse sand

261--Isan Loamy Sand

Component Description

Isan and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on outwash plain
Depression on stream terrace
Slope range: 0 to 1 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
1.8 feet August
Ponding does not occur (months):
January February July August September October December
Ponding is deepest (depth, months):
0.3 foot March April
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
A,AB--0 to 20 inches; loamy sand
Bg--20 to 29 inches; coarse sand
C--29 to 60 inches; sand

281--Darfur Coarse Sandy Loam

Component Description

Darfur and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Drainageway on outwash plain
Drainageway on stream terrace
Slope range: 0 to 1 percent
Surface layer texture: Coarse sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
0.5 foot April May
Wet soil moisture status is lowest (depth, months):
2.0 feet August
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

A,AB--0 to 17 inches; coarse sandy loam
Bg--17 to 30 inches; sandy loam
Cg--30 to 60 inches; stratified loamy sand to sandy loam to sand

292B--Alstad Sandy Loam, 1 To 4 Percent Slopes

Component Description

Alstad and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 4 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.0 foot April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February August
September December

Ponding: None

Available water capacity to a depth of 60 inches: 8.6 inches

Content of organic matter in the upper 10 inches: 1.6 percent

Typical profile:

Ap--0 to 7 inches; sandy loam

E--7 to 13 inches; sandy loam

Bt1,Bt2--13 to 35 inches; sandy clay loam

Bt3--35 to 46 inches; sandy loam

C--46 to 60 inches; sandy loam

318--Mayer Loam, Depressional

Component Description

Mayer, depressional and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression on outwash plain

Depression on stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material:

Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

1.8 feet August

Ponding does not occur (months):

January February July August September October December

Ponding is deepest (depth, months):

0.5 foot March April

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

A--0 to 24 inches; loam

Bg--24 to 40 inches; loam

2Cg--40 to 60 inches; coarse sand

325--Prebish Sandy Loam, Depressional

Component Description

Prebish, depressional and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression on interdrumlin

Depression on moraine

Slope range: 0 to 1 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Dense material: 40 to 60 inches

Drainage class: Very poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April May June November

Wet soil moisture status is lowest (depth, months):

2.0 feet February

Ponding does not occur (months):

January February December

Ponding is deepest (depth, months):

0.5 foot March April May June

Available water capacity to a depth of 60 inches: 8.8 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

A--0 to 18 inches; sandy loam

Bg--18 to 47 inches; sandy loam

2Cd--47 to 60 inches; sandy loam

327A--Dickman Sandy Loam, 0 To 2 Percent Slopes

Component Description

Dickman and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 4.6 inches

Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:

Ap,AB--0 to 14 inches; sandy loam

Bw--14 to 19 inches; sandy loam

2BC,2C--19 to 60 inches; coarse sand

327B--Dickman Sandy Loam, 2 To 6 Percent Slopes

Component Description

Dickman and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 2 to 6 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.4 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 Ap,AB--0 to 14 inches; sandy loam
 Bw--14 to 16 inches; sandy loam
 2BC,2C--16 to 60 inches; coarse sand

392--Biscay Loam

Component Description

Biscay and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Drainageway on outwash plain
 Drainageway on stream terrace
Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
 Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
 0.5 foot April May
Wet soil moisture status is lowest (depth, months):
 2.0 feet August
Ponding: None
Available water capacity to a depth of 60 inches: 6.2 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
 Ap,AB--0 to 16 inches; loam
 Bg--16 to 26 inches; loam
 2C--26 to 60 inches; gravelly coarse sand

399--Biscay Loam, Depressional

Component Description

Biscay, depressional and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Depression on outwash plain
 Depression on stream terrace
Slope range: 0 to 1 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
 Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
 At the surface March April
Wet soil moisture status is lowest (depth, months):
 1.8 feet August
Ponding does not occur (months):
 January February July August September October December
Ponding is deepest (depth, months):
 0.5 foot March April
Available water capacity to a depth of 60 inches: 6.6 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:

Ap,AB--0 to 23 inches; loam
Bg--23 to 27 inches; loam
2C--27 to 60 inches; gravelly coarse sand

406B--Dorset Sandy Loam, 2 To 8 Percent Slopes

Component Description

Dorset and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 2 to 8 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 A,E--0 to 10 inches; sandy loam
 Bt--10 to 19 inches; sandy loam
 2BC--19 to 23 inches; loamy sand
 2C--23 to 60 inches; gravelly coarse sand

406C--Dorset Sandy Loam, 8 To 15 Percent Slopes

Component Description

Dorset and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 8 to 15 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 2.1 percent
Typical profile:
 A,E--0 to 6 inches; sandy loam
 Bt--6 to 19 inches; sandy loam
 2BC--19 to 23 inches; loamy sand
 2C--23 to 60 inches; gravelly coarse sand

406E--Dorset Sandy Loam, 15 To 25 Percent Slopes

Component Description

Dorset and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 15 to 25 percent
Surface layer texture: Sandy loam

Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
A,E--0 to 8 inches; sandy loam
Bt--8 to 19 inches; sandy loam
2BC--19 to 23 inches; loamy sand
2C--23 to 60 inches; gravelly coarse sand

413--Osakis Loam

Component Description

Osakis and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Outwash plain
Stream terrace
Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April May
Wet soil moisture status is lowest (depth, months):
4.0 feet February August September
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:
Ap--0 to 9 inches; loam
AB,Bw--9 to 19 inches; sandy loam
2Bw--19 to 24 inches; loamy coarse sand
2C--24 to 60 inches; gravelly coarse sand

414--Hamel Loam

Component Description

Hamel and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Drainageway on moraine
Slope range: 0 to 3 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
0.5 foot April May
Wet soil moisture status is lowest (depth, months):
3.3 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:

A1,A2,AB--0 to 23 inches; loam
Btg,Bg--23 to 41 inches; clay loam
Cg--41 to 60 inches; loam

421B--Ves Loam, 2 To 6 Percent Slopes

Component Description

Ves and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 6 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:

Ap,AB--0 to 12 inches; loam

Bw--12 to 26 inches; loam

C--26 to 60 inches; loam

421C--Ves Loam, 6 To 12 Percent Slopes

Component Description

Ves and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 6 to 12 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:

Ap,AB--0 to 10 inches; loam

Bw--10 to 26 inches; loam

C--26 to 60 inches; loam

446A--Normania Loam, 1 To 3 Percent Slopes

Component Description

Normania and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 3 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Till

Flooding: None
Wet soil moisture status is highest (depth, months):
2.0 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB--0 to 14 inches; loam
Bw--14 to 26 inches; loam
Ck--26 to 34 inches; loam
C--34 to 60 inches; loam

446B--Normania Loam, 3 To 5 Percent Slopes

Component Description

Normania and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 3 to 5 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet January February July August
September
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 5.6 percent
Typical profile:
Ap,AB--0 to 9 inches; loam
Bw--9 to 22 inches; loam
Ck--22 to 34 inches; loam
C--34 to 60 inches; loam

453B--Demontreville Loamy Sand, 2 To 8 Percent Slopes

Component Description

Demontreville and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 2 to 8 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Outwash over till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 0.6 percent
Typical profile:
Ap--0 to 7 inches; loamy sand
E--7 to 28 inches; coarse sand
2Bt--28 to 45 inches; sandy loam
2C--45 to 60 inches; sandy loam

453C--Demontreville Loamy Sand, 8 To 15 Percent Slopes

Component Description

Demontreville and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 8 to 15 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 5.5 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

Ap--0 to 7 inches; loamy sand

E--7 to 28 inches; coarse sand

2Bt--28 to 45 inches; sandy loam

2C--45 to 60 inches; sandy loam

454B--Mahtomedi Loamy Coarse Sand, 2 To 8 Percent Slopes

Component Description

Mahtomedi and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Moraine

Slope range: 2 to 8 percent

Surface layer texture: Loamy coarse sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 4.2 inches

Content of organic matter in the upper 10 inches: 0.7 percent

Typical profile:

A--0 to 8 inches; loamy coarse sand

Bw--8 to 34 inches; coarse sand

C--34 to 60 inches; gravelly coarse sand

454C--Mahtomedi Loamy Coarse Sand, 8 To 15 Percent Slopes

Component Description

Mahtomedi and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Moraine

Slope range: 8 to 15 percent

Surface layer texture: Loamy coarse sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.2 inches
Content of organic matter in the upper 10 inches: 0.5 percent
Typical profile:
 A--0 to 5 inches; loamy coarse sand
 Bw--5 to 25 inches; coarse sand
 C--25 to 60 inches; gravelly coarse sand

454E--Mahtomedi Loamy Coarse Sand, 15 To 25 Percent Slopes

Component Description

Mahtomedi and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Moraine
Slope range: 15 to 25 percent
Surface layer texture: Loamy coarse sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 0.3 percent
Typical profile:
 A--0 to 2 inches; loamy coarse sand
 Bw--2 to 20 inches; coarse sand
 C--20 to 60 inches; gravelly coarse sand

454F--Mahtomedi Loamy Coarse Sand, 25 To 40 Percent Slopes

Component Description

Mahtomedi and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Moraine
Slope range: 25 to 40 percent
Surface layer texture: Loamy coarse sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 0.3 percent
Typical profile:
 A--0 to 2 inches; loamy coarse sand
 Bw--2 to 20 inches; coarse sand
 C--20 to 60 inches; gravelly coarse sand

459--Corunna Loam

Component Description

Corunna and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Swale on moraine

Slope range: 0 to 2 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
 Water-worked sediments over till
Flooding: None
Wet soil moisture status is highest (depth, months):
 0.5 foot April May
Wet soil moisture status is lowest (depth, months):
 3.3 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 5.4 percent
Typical profile:
 Ap--0 to 8 inches; loam
 Bg1--8 to 24 inches; sandy loam
 Bg2--24 to 32 inches; loamy sand
 2Cg--32 to 60 inches; loam

461B--Koronis Loam, 2 To 6 Percent Slopes

Component Description

Koronis and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Moraine
Slope range: 2 to 6 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 2.2 percent
Typical profile:
 Ap--0 to 8 inches; loam
 Bt--8 to 27 inches; loam
 C--27 to 60 inches; loam

461C--Koronis Loam, 6 To 12 Percent Slopes

Component Description

Koronis and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Moraine
Slope range: 6 to 12 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 2.2 percent
Typical profile:
 Ap--0 to 8 inches; loam
 Bt--8 to 27 inches; loam
 C--27 to 60 inches; loam

465--Kalmarville Sandy Loam, Frequently Flooded

Component Description

Kalmarville, frequently flooded and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Alluvial flat on flood plain

Slope range: 0 to 1 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Alluvium

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Frequent March April May June

Wet soil moisture status is highest (depth, months):

At the surface April May June

Wet soil moisture status is lowest (depth, months):

1.8 feet February

Ponding: None

Available water capacity to a depth of 60 inches: 8.2 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

A--0 to 42 inches; sandy loam

2C--42 to 60 inches; coarse sand

511--Marcellon Loam

Component Description

Marcellon and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 3 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

1.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 8.8 inches

Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

Ap,A--0 to 15 inches; loam

Bt--15 to 32 inches; sandy clay loam

C--32 to 60 inches; sandy loam

525--Muskego Muck

Component Description

Muskego and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 2 percent

Surface layer texture: Muck

Depth to restrictive feature:
 Very deep (more than 60 inches)
 Drainage class: Very poorly drained
 Parent material:
 Organic material over coprogenous earth
 Flooding: None
 Wet soil moisture status is highest (depth, months):
 At the surface March April May June
 Wet soil moisture status is lowest (depth, months):
 1.5 feet February
 Ponding does not occur (months):
 January February December
 Ponding is deepest (depth, months):
 1.0 foot March April May
 Available water capacity to a depth of 60 inches: 18.5 inches
 Content of organic matter in the upper 10 inches: 75.0 percent
 Typical profile:
 Oa--0 to 31 inches; muck
 Lco--31 to 60 inches; coprogenous earth

540--Seelyeville Muck

Component Description

Seelyeville and similar soils
 Extent: 90 percent of the unit
 Geomorphic description:
 Depression
 Slope range: 0 to 1 percent
 Surface layer texture: Muck
 Depth to restrictive feature:
 Very deep (more than 60 inches)
 Drainage class: Very poorly drained
 Parent material:
 Organic material
 Flooding: None
 Wet soil moisture status is highest (depth, months):
 At the surface March April May June
 Wet soil moisture status is lowest (depth, months):
 1.5 feet February
 Ponding does not occur (months):
 January February December
 Ponding is deepest (depth, months):
 1.0 foot March April May
 Available water capacity to a depth of 60 inches: 23.9 inches
 Content of organic matter in the upper 10 inches: 65.0 percent
 Typical profile:
 Oa1--0 to 10 inches; muck
 Oa2--10 to 60 inches; muck

541--Rifle Mucky Peat

Component Description

Rifle and similar soils
 Extent: 90 percent of the unit
 Geomorphic description:
 Depression
 Slope range: 0 to 2 percent
 Surface layer texture: Mucky peat
 Depth to restrictive feature:
 Very deep (more than 60 inches)
 Drainage class: Very poorly drained
 Parent material:
 Organic material
 Flooding: None
 Wet soil moisture status is highest (depth, months):
 At the surface March April May June
 Wet soil moisture status is lowest (depth, months):
 1.5 feet February

Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April May
Available water capacity to a depth of 60 inches: 31.7 inches
Content of organic matter in the upper 10 inches: 85.0 percent
Typical profile:
Oe1--0 to 8 inches; mucky peat
Oe2--8 to 60 inches; mucky peat

543--Markey Muck

Component Description

Markey and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on outwash plain
Slope range: 0 to 2 percent
Surface layer texture: Muck
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Organic material over outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April May June
Wet soil moisture status is lowest (depth, months):
1.5 feet February
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April May
Available water capacity to a depth of 60 inches: 12.2 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa--0 to 25 inches; muck
2C--25 to 60 inches; gravelly coarse sand

544--Cathro Muck

Component Description

Cathro and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on moraine
Slope range: 0 to 2 percent
Surface layer texture: Muck
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Organic material over till
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April May June
Wet soil moisture status is lowest (depth, months):
1.5 feet February
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April May
Available water capacity to a depth of 60 inches: 20.4 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa1--0 to 14 inches; muck
Oa2--14 to 40 inches; muck
2Cg--40 to 60 inches; loam

565--Eckvoll Loamy Sand

Component Description

Eckvoll and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 3 percent

Surface layer texture: Loamy sand

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Outwash over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.0 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 8.5 inches

Content of organic matter in the upper 10 inches: 1.9 percent

Typical profile:

Ap--0 to 9 inches; loamy sand

E--9 to 22 inches; fine sand

2Bt--22 to 40 inches; sandy clay loam

2C--40 to 60 inches; loam

566--Regal Loam

Component Description

Regal and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Swale on outwash plain

Swale on stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Parent material:

Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

2.0 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 4.7 inches

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

Ap,A--0 to 15 inches; loam

Bg--15 to 18 inches; sandy loam

2Cg--18 to 60 inches; gravelly coarse sand

571--Coriff Loam

Component Description

Coriff and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Swale on moraine

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
Water-worked sediments over till
Flooding: None
Wet soil moisture status is highest (depth, months):
0.5 foot April May
Wet soil moisture status is lowest (depth, months):
3.3 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 8.0 percent
Typical profile:
Ap,AB--0 to 18 inches; loam
Bg1--18 to 24 inches; sandy loam
Bg2--24 to 34 inches; loamy sand
2Cg--34 to 60 inches; loam

572--Lowlein Sandy Loam

Component Description

Lowlein and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Moraine
Slope range: 1 to 3 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material:
Water-worked sediments over till
Flooding: None
Wet soil moisture status is highest (depth, months):
2.5 feet April
Wet soil moisture status is lowest (depth, months):
More than 6.7 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 9.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB--0 to 13 inches; sandy loam
Bw--13 to 21 inches; sandy loam
2Bw--21 to 30 inches; loamy sand
3C--30 to 60 inches; loam

582--Roliss Loam

Component Description

Roliss and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Flat on moraine
Slope range: 0 to 1 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material:
Till
Flooding: None
Wet soil moisture status is highest (depth, months):
0.5 foot April May
Wet soil moisture status is lowest (depth, months):
3.3 feet February August
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches

Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

Ap,AB--0 to 14 inches; loam

Bg--14 to 22 inches; loam

Ckg--22 to 32 inches; loam

Cg--32 to 60 inches; loam

591B--Doland Silt Loam, 1 To 6 Percent Slopes

Component Description

Doland and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 6 percent

Surface layer texture: Silt loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Silty material over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 4.6 percent

Typical profile:

Ap--0 to 9 inches; silt loam

Bw--9 to 24 inches; silt loam

2C--24 to 60 inches; loam

597--Tara Silt Loam

Component Description

Tara and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 1 to 3 percent

Surface layer texture: Silt loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Silty material over till

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

Ap,AB--0 to 23 inches; silt loam

Bw--23 to 35 inches; silt loam

2C--35 to 60 inches; loam

611C--Hawick Loamy Sand, 6 To 12 Percent Slopes

Component Description

Hawick and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 6 to 12 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.4 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
 Ap--0 to 10 inches; loamy sand
 Bw--10 to 19 inches; loamy coarse sand
 C--19 to 60 inches; coarse sand

611D--Hawick Loamy Sand, 12 To 40 Percent Slopes

Component Description

Hawick and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 12 to 40 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.3 inches
Content of organic matter in the upper 10 inches: 2.0 percent
Typical profile:
 Ap--0 to 10 inches; loamy sand
 Bw--10 to 18 inches; loamy coarse sand
 C--18 to 60 inches; coarse sand

639A--Ridgeport Sandy Loam, 0 To 2 Percent Slopes

Component Description

Ridgeport and similar soils
Extent: 90 percent of the unit
Geomorphic description:
 Outwash plain
 Stream terrace
Slope range: 0 to 2 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
 Ap,A--0 to 13 inches; sandy loam
 Bw--13 to 34 inches; sandy loam
 2BC,2C--34 to 60 inches; sand

639B--Ridgeport Sandy Loam, 2 To 6 Percent Slopes

Component Description

Ridgeport and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Stream terrace

Outwash plain

Slope range: 2 to 6 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 5.0 inches

Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:

Ap,A--0 to 10 inches; sandy loam

Bw--10 to 28 inches; sandy loam

2BC,2C--28 to 60 inches; sand

804D--Koronis-Estherville Complex, 12 To 25 Percent Slopes

Component Description

Koronis and similar soils

Extent: 75 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 25 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 9.3 inches

Content of organic matter in the upper 10 inches: 2.1 percent

Typical profile:

Ap--0 to 7 inches; loam

Bt--7 to 22 inches; loam

C--22 to 60 inches; loam

Estherville and similar soils

Extent: 25 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 25 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.6 inches

Content of organic matter in the upper 10 inches: 2.2 percent

Typical profile:

Ap--0 to 7 inches; sandy loam

Bw--7 to 15 inches; sandy loam

2C--15 to 60 inches; gravelly coarse sand

807D--Koronis-Sunburg Complex, 12 To 25 Percent Slopes

Component Description

Koronis and similar soils

Extent: 60 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 25 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 9.5 inches

Content of organic matter in the upper 10 inches: 2.2 percent

Typical profile:

Ap--0 to 8 inches; loam

Bt--8 to 26 inches; loam

C--26 to 60 inches; loam

Sunburg and similar soils

Extent: 40 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 25 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Outwash

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 9.5 inches

Content of organic matter in the upper 10 inches: 2.3 percent

Typical profile:

Ap--0 to 9 inches; loam

C--9 to 60 inches; fine sandy loam

848--Urban Land-Osakis Complex

Component Description

Urban land

Extent: 80 percent of the unit

Slope range: 0 to 2 percent

The Urban land component is mainly residential or commercial with 35 to 80 percent of the mapunit covered by impervious surfaces. Because of the variability of the Urban land component in this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Osakis and similar soils

Extent: 20 percent of the unit

Geomorphic description:

Outwash plain

Stream terrace

Slope range: 0 to 2 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Parent material:

Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April May

Wet soil moisture status is lowest (depth, months):

4.0 feet February August September

Ponding: None

Available water capacity to a depth of 60 inches: 4.8 inches

Content of organic matter in the upper 10 inches: 2.8 percent

Typical profile:

Ap--0 to 9 inches; loam

AB,Bw--9 to 19 inches; sandy loam

2Bw--19 to 24 inches; loamy coarse sand

2C--24 to 60 inches; gravelly coarse sand

850--Urban Land-Dassel Complex

Component Description

Urban land

Extent: 80 percent of the unit

Slope range: 0 to 2 percent

The Urban land component is mainly residential or commercial with 35 to 80 percent of the mapunit covered by impervious surfaces. Because of the variability of the Urban land component in this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Dassel and similar soils

Extent: 20 percent of the unit

Geomorphic description:

Depression on outwash plain

Depression on stream terrace

Slope range: 0 to 1 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Parent material:

Outwash

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

1.8 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 7.4 inches

Content of organic matter in the upper 10 inches: 9.0 percent

Typical profile:

Ap,AB--0 to 11 inches; sandy loam

Bg--11 to 28 inches; sandy loam

C--28 to 60 inches; loamy sand

865B--Urban Land-Hubbard Complex, 1 To 8 Percent Slopes

Component Description

Urban land

Extent: 90 percent of the unit

Slope range: 1 to 8 percent

The Urban land component is mainly residential or commercial with 35 to 80 percent of the mapunit covered by impervious surfaces. Because of the variability of the Urban land component in this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

Hubbard and similar soils

Ponding: None
Available water capacity to a depth of 60 inches: 7.4 inches
Content of organic matter in the upper 10 inches: 2.7 percent
Typical profile:
A--0 to 4 inches; fine sandy loam
E--4 to 12 inches; sandy loam
Btg--12 to 24 inches; sandy loam
Bt--24 to 40 inches; sandy loam
Cd--40 to 60 inches; sandy loam

875B--Estherville-Hawick Complex, 2 To 6 Percent Slopes

Component Description

Estherville and similar soils

Extent: 65 percent of the unit
Geomorphic description:
Outwash plain
Stream terrace
Slope range: 2 to 6 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 2.2 percent
Typical profile:
Ap--0 to 7 inches; sandy loam
Bw--7 to 16 inches; sandy loam
2C--16 to 60 inches; gravelly coarse sand

Hawick and similar soils

Extent: 35 percent of the unit
Geomorphic description:
Outwash plain
Stream terrace
Slope range: 2 to 6 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material:
Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.3 inches
Content of organic matter in the upper 10 inches: 1.7 percent
Typical profile:
Ap--0 to 8 inches; loamy sand
Bw--8 to 19 inches; loamy coarse sand
C--19 to 60 inches; coarse sand

954C--Ves-Storden Loams, 6 To 12 Percent Slopes

Component Description

Ves and similar soils

Extent: 70 percent of the unit
Geomorphic description:
Moraine
Slope range: 6 to 12 percent
Surface layer texture: Loam
Depth to restrictive feature:
Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.4 inches

Content of organic matter in the upper 10 inches: 3.8 percent

Typical profile:

Ap,AB--0 to 9 inches; loam

Bw--9 to 24 inches; loam

C--24 to 60 inches; loam

Storden and similar soils

Extent: 30 percent of the unit

Geomorphic description:

Moraine

Slope range: 6 to 12 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.5 inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

Ap--0 to 7 inches; loam

C--7 to 60 inches; loam

954D--Ves-Storden Loams, 12 To 18 Percent Slopes

Component Description

Ves and similar soils

Extent: 60 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 18 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.4 inches

Content of organic matter in the upper 10 inches: 3.4 percent

Typical profile:

Ap,AB--0 to 8 inches; loam

Bw--8 to 22 inches; loam

C--22 to 60 inches; loam

Storden and similar soils

Extent: 40 percent of the unit

Geomorphic description:

Moraine

Slope range: 12 to 18 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None
Available water capacity to a depth of 60 inches: 10.4 inches
Content of organic matter in the upper 10 inches: 1.1 percent
Typical profile:
 Ap--0 to 6 inches; loam
 C--6 to 60 inches; loam

999B--Ves-Estherville Complex, 2 To 6 Percent Slopes

Component Description

Ves and similar soils

Extent: 75 percent of the unit
Geomorphic description:
 Moraine
Slope range: 2 to 6 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.4 inches
Content of organic matter in the upper 10 inches: 3.8 percent
Typical profile:
 Ap,AB--0 to 9 inches; loam
 Bw--9 to 24 inches; loam
 C--24 to 60 inches; loam

Estherville and similar soils

Extent: 25 percent of the unit
Geomorphic description:
 Moraine
Slope range: 2 to 6 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.8 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
 Ap--0 to 10 inches; sandy loam
 Bw--10 to 16 inches; sandy loam
 2C--16 to 60 inches; gravelly coarse sand

999C--Ves-Estherville Complex, 6 To 12 Percent Slopes

Component Description

Ves and similar soils

Extent: 70 percent of the unit
Geomorphic description:
 Moraine
Slope range: 6 to 12 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None
Available water capacity to a depth of 60 inches: 10.4 inches
Content of organic matter in the upper 10 inches: 3.4 percent
Typical profile:
 Ap,AB--0 to 8 inches; loam
 Bw--8 to 22 inches; loam
 C--22 to 60 inches; loam

Estherville and similar soils
Extent: 30 percent of the unit
Geomorphic description:
 Moraine
Slope range: 6 to 12 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.7 inches
Content of organic matter in the upper 10 inches: 2.4 percent
Typical profile:
 Ap--0 to 8 inches; sandy loam
 Bw--8 to 16 inches; sandy loam
 2C--16 to 60 inches; gravelly coarse sand

999D--Ves-Estherville Complex, 12 To 25 Percent Slopes

Component Description

Ves and similar soils
Extent: 70 percent of the unit
Geomorphic description:
 Moraine
Slope range: 12 to 18 percent
Surface layer texture: Loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
 Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.4 inches
Content of organic matter in the upper 10 inches: 3.2 percent
Typical profile:
 Ap,AB--0 to 7 inches; loam
 Bw--7 to 25 inches; loam
 C--25 to 60 inches; loam

Estherville and similar soils
Extent: 30 percent of the unit
Geomorphic description:
 Moraine
Slope range: 12 to 25 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
 Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material:
 Outwash
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 3.6 inches
Content of organic matter in the upper 10 inches: 2.2 percent
Typical profile:

Ap--0 to 7 inches; sandy loam
Bw--7 to 15 inches; sandy loam
2C--15 to 60 inches; gravelly coarse sand

1013--Pits, Quarry

Component Description

Pits, quarry

Extent: 100 percent of the unit
Slope range: 0 to 50 percent

This map unit consists of open pits where granite has been mined. These areas are active or abandoned. Some pits have water in them because they were mined below the regional aquifer.

1015--Psammments, Sloping

Component Description

Psammments, sloping

Extent: 100 percent of the unit
Geomorphic description:
Stream terrace
Outwash plain
Slope range: 0 to 2 percent
Parent material:
Variable sandy material
Flooding: None
Ponding: None

The Psammments component occupies areas of development that have been disturbed by construction activity. The cut or fill material is dominantly sandy parent material. Because of the variability of the component in this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

1016--Udorthents, Loamy

Component Description

Udorthents, loamy

Extent: 100 percent of the unit
Geomorphic description:
Moraine
Slope range: 0 to 6 percent
Parent material:
Variable loamy material
Flooding: None
Ponding: None

The Udorthents component occupies areas of development that have been disturbed by construction activity. The cut or fill material is dominantly loamy soil material. Because of the variability of the component in this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

1018--Udifluvents, Frequently Flooded

Component Description

Udifluvents, frequently flooded and similar soils

Extent: 90 percent of the unit
Geomorphic description:
Flood plain
Slope range: 0 to 2 percent

Surface layer texture: Fine sandy loam
 Depth to restrictive feature:
 Very deep (more than 60 inches)
 Drainage class: Somewhat poorly drained
 Parent material:
 Alluvium
 Flooding does not occur (months):
 January February June July August September October
 November December
 Flooding is most likely (frequency, months):
 Frequent March April
 Wet soil moisture status is highest (depth, months):
 1.0 foot April
 Wet soil moisture status is lowest (depth, months):
 4.5 feet February
 Ponding: None
 Available water capacity to a depth of 60 inches: 7.9 inches
 Content of organic matter in the upper 10 inches: 2.0 percent
 Typical profile:
 Ap--0 to 10 inches; fine sandy loam
 Al--10 to 26 inches; fine sandy loam
 Bw--26 to 32 inches; fine sandy loam
 2C--32 to 60 inches; stratified fine sandy loam to coarse sand

1029--Pits, Gravel

Component Description

Pits, gravel

Extent: 100 percent of the unit
 Slope range: 0 to 50 percent

Gravel pits are areas that have been mined for gravel or sand. This map unit is actively being mined or is an abandoned pit. Because of the variability of this component in this map unit, interpretation for specific uses are not available. Onsite investigation is needed.

1055--Histosols And Haplaquolls, Ponded

Component Description

Histosols, ponded and similar soils

Extent: 50 percent of the unit
 Geomorphic description:
 Depression
 Slope range: 0 to 1 percent
 Depth to restrictive feature:
 Very deep (more than 60 inches)
 Drainage class: Very poorly drained
 Parent material:

 Organic material
 Flooding: None
 Wet soil moisture status: At the surface all year
 Ponding is shallowest (depth, months):
 0.5 foot August
 Ponding is deepest (depth, months):
 3.0 feet March April May

The Histosol component is an organic soil that is ponded with water throughout most of the year. Because of the variability of this component in this map unit, interpretation for specific uses are not available. Onsite investigation is needed.

Haplaquolls, ponded and similar soils

Extent: 50 percent of the unit
 Geomorphic description:
 Depression
 Slope range: 0 to 1 percent
 Depth to restrictive feature:

Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Variable sediments
Flooding: None
Wet soil moisture status: At the surface all year
Ponding is shallowest (depth, months):
0.5 foot August
Ponding is deepest (depth, months):
3.0 feet March April May

The Haplaquoll component is an mineral soil that is ponded with water throughout most of the year. Because of the variability of this component in this map unit, interpretation for specific uses are not available. Onsite investigation is needed.

1064--Rock Outcrop-Lithic Eutrochrepts Complex

Component Description

Rock outcrop

Extent: 55 percent of the unit
Slope range: 0 to 25 percent
Depth to restrictive feature:
Bedrock (lithic): 0 to 4 inches
Flooding: None
Ponding: None

The Rock outcrop component consists of exposed berock. The granite exposures commonly project 5 to 20 feet above the land surface. Because of the variability of this component in this map unit, interpretation for specific uses are not available. Onsite investigation is needed.

Lithic eutrochrepts and similar soils

Extent: 45 percent of the unit
Slope range: 0 to 25 percent
Depth to restrictive feature:
Bedrock (lithic): 4 to 20 inches
Parent material:
Loamy sediments over bedrock
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None

The Lithic Eutrochrept component consists of shallow loamy soil material usually less than 20 inches thick above bedrock. Because of the variability of this component in this map unit, interpretation for specific uses are not available. Onsite investigation is needed.

1805--Blue Earth Variant, Mucky Silt Loam

Component Description

Blue earth variant and similar soils

Extent: 90 percent of the unit
Geomorphic description:
Depression on outwash plain
Slope range: 0 to 2 percent
Surface layer texture: Mucky silt loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Coprogenous earth over outwash
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April May
Wet soil moisture status is lowest (depth, months):

2.0 feet February August
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April
Available water capacity to a depth of 60 inches: 13.6 inches
Content of organic matter in the upper 10 inches: 17.5 percent
Typical profile:
A,C--0 to 28 inches; mucky silt loam
2C--28 to 34 inches; loam
3C--34 to 60 inches; gravelly loamy coarse sand

1825C--Seelyeville Muck, Sloping

Component Description

Seelyeville, sloping and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression
Slope range: 1 to 6 percent
Surface layer texture: Muck
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Organic material
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
2.5 feet September
Ponding: None
Available water capacity to a depth of 60 inches: 23.9 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa--0 to 60 inches; muck

1828--Glencoe Muck

Component Description

Glencoe and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression on moraine
Slope range: 0 to 1 percent
Surface layer texture: Muck
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Organic material over till
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April
Wet soil moisture status is lowest (depth, months):
2.0 feet February August
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April
Available water capacity to a depth of 60 inches: 13.8 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa--0 to 12 inches; muck
2A--12 to 28 inches; loam
2Bg--28 to 33 inches; loam
2Cg--33 to 60 inches; loam

1842F--Cushing And Flak Sandy Loams, Steep

Component Description

Cushing, steep and similar soils

Extent: 55 percent of the unit

Geomorphic description:

Moraine

Drumlin

Slope range: 25 to 40 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 8.8 inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

A--0 to 4 inches; sandy loam

E--4 to 10 inches; sandy loam

B/E--10 to 16 inches; sandy loam

Bt--16 to 27 inches; sandy clay loam

C--27 to 60 inches; sandy loam

Flak, steep and similar soils

Extent: 45 percent of the unit

Geomorphic description:

Drumlin

Moraine

Slope range: 25 to 40 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 6.8 inches

Content of organic matter in the upper 10 inches: 0.6 percent

Typical profile:

A--0 to 3 inches; fine sandy loam

E, BE--3 to 14 inches; sandy loam

Bt1--14 to 27 inches; sandy loam

Bt2--27 to 42 inches; sandy loam

Cd--42 to 60 inches; sandy loam

1843C--Cushing-Demontreville Complex, 8 To 15 Percent Slopes

Component Description

Cushing and similar soils

Extent: 55 percent of the unit

Geomorphic description:

Moraine

Slope range: 8 to 15 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 8.9 inches
Content of organic matter in the upper 10 inches: 1.3 percent
Typical profile:
A--0 to 6 inches; sandy loam
E--6 to 15 inches; sandy loam
B/E--15 to 19 inches; sandy loam
Bt--19 to 30 inches; sandy clay loam
C--30 to 60 inches; sandy loam

Demontreville and similar soils

Extent: 45 percent of the unit
Geomorphic description:
Moraine
Slope range: 8 to 15 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Outwash over till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.3 inches
Content of organic matter in the upper 10 inches: 0.3 percent
Typical profile:
Ap--0 to 2 inches; loamy sand
E--2 to 18 inches; coarse sand
2Bt--18 to 34 inches; sandy loam
2C--34 to 60 inches; sandy loam

1843E--Cushing-Demontreville Complex, 15 To 25 Percent Slopes

Component Description

Cushing and similar soils

Extent: 55 percent of the unit
Geomorphic description:
Moraine
Slope range: 15 to 25 percent
Surface layer texture: Sandy loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
A--0 to 4 inches; sandy loam
E--4 to 11 inches; sandy loam
B/E--11 to 16 inches; sandy loam
Bt--16 to 25 inches; sandy clay loam
C--25 to 60 inches; sandy loam

Demontreville and similar soils

Extent: 45 percent of the unit
Geomorphic description:
Moraine
Slope range: 15 to 25 percent
Surface layer texture: Loamy sand
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Well drained
Parent material:
Outwash over till
Flooding: None
Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None
Available water capacity to a depth of 60 inches: 5.3 inches
Content of organic matter in the upper 10 inches: 0.3 percent
Typical profile:
Ap--0 to 2 inches; loamy sand
E--2 to 17 inches; coarse sand
2Bt--17 to 32 inches; sandy loam
2C--32 to 60 inches; sandy loam

1879--Seelyeville Muck, Calcareous

Component Description

Seelyeville, calcareous and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression
Slope range: 0 to 1 percent
Surface layer texture: Muck
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Organic material
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April May June
Wet soil moisture status is lowest (depth, months):
1.5 feet February
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April May
Available water capacity to a depth of 60 inches: 23.9 inches
Content of organic matter in the upper 10 inches: 65.0 percent
Typical profile:
Oa--0 to 60 inches; muck

1880--Martisco Mucky Silt Loam

Component Description

Martisco and similar soils
Extent: 90 percent of the unit
Geomorphic description:
Depression
Slope range: 0 to 1 percent
Surface layer texture: Mucky silt loam
Depth to restrictive feature:
Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material:
Coprogenous earth over marl
Flooding: None
Wet soil moisture status is highest (depth, months):
At the surface March April May June
Wet soil moisture status is lowest (depth, months):
1.5 feet February
Ponding does not occur (months):
January February December
Ponding is deepest (depth, months):
1.0 foot March April May
Available water capacity to a depth of 60 inches: 12.6 inches
Content of organic matter in the upper 10 inches: 16.9 percent
Typical profile:
A--0 to 9 inches; mucky silt loam
2C--9 to 70 inches; marl

1892--Prebish Fine Sandy Loam

Component Description

Prebish and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat on moraine

Flat on interdrumlin

Slope range: 0 to 1 percent

Surface layer texture: Fine sandy loam

Depth to restrictive feature:

Dense material: 40 to 60 inches

Drainage class: Poorly drained

Parent material:

Till

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface April

Wet soil moisture status is lowest (depth, months):

More than 6.7 feet January February August
September

Ponding: None

Available water capacity to a depth of 60 inches: 8.6 inches

Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:

A--0 to 13 inches; fine sandy loam

Bg--13 to 43 inches; sandy loam

2Cd--43 to 60 inches; sandy loam

1902B--Jewett Silt Loam, 2 To 8 Percent Slopes

Component Description

Jewett and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Moraine

Slope range: 2 to 8 percent

Surface layer texture: Silt loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Parent material:

Silty material over till

Flooding: None

Depth to wet soil moisture status: More than 6.7 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 10.6 inches

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

A--0 to 4 inches; silt loam

E--4 to 13 inches; silt loam

Bt--13 to 21 inches; silt loam

2Bt--21 to 36 inches; loam

2BC,2C--36 to 60 inches; loam

M-W--Water, Miscellaneous

Component Description

Water, miscellaneous

Extent: 100 percent of the unit

Miscellaneous water map units are not naturally occurring water areas. They are constructed and include; sewage lagoons, storm water sediment basins with a permanent pool of water, and aquaculture ponds. This map unit is not soil, no interpretations assigned.

W--Water

Component Description

Water

Extent: 100 percent of the unit

This mapunit consists of natural occurring bodies of water or water that has been impounded by structures in natural waterways. They range in size from 1.5 acres to tens of thousands of acres. This map unit is not soil, no interpretations assigned.